

## ABSTRACT

A CPU 23a detects a charging efficiency which is a ratio of an electrical quantity to be stored in a battery 13 as electromotive force to  
5 an electrical quantity flowed into the battery 13 at any time point from a start of charging to an end of charging of the battery 13 on the basis of a charging current and charging voltage obtained by using a current sensor 15 and voltage sensor 17. Then, a fully charged state of the battery 13 is detected when the detected charging efficiency can be regarded as zero.